

REMARKS

In the Office Action mailed September 5, 2003 in the above referenced pending application, the examiner finally rejected applicant's claims 30-44 for alleged obviousness under 35 USC 103, in view of multiple asserted combinations of cited prior art references. In addition, the examiner rejected claims 31, 36, 39 and 41-44 for alleged indefiniteness under 35 USC 112. The examiner also objected to the drawings under 37 CFR 1.83(a).

In response, applicant has canceled claims 31, 39 and 42. Independent claims 30, 38 and 41 have been amended to recite applicant's invention in more detail, and in a manner respectfully submitted to distinguish more clearly and patentably from the cited prior art references. Dependent claims 32-37, 40, and 43-44 remain in the application and depend respectively from parent independent claims 30, 38 and 41. Of these dependent claims, claims 33-36, 40 and 43 have been amended for proper consistency with their respective parent claims as now presented, and further to address issues raised by the examiner under Section 112.

In addition, by this Response, applicant has amended the Specification at page 9, and implemented a related amendment to FIG. 3 of the drawings; these revisions are directed to the examiner's objection to the drawings under 37 CFR 1.38(a) and related Section 112 rejections of claims 36 and 43.

With these revisions, claims 30, 32-38, 40-41 and 43-44 are respectfully resubmitted for reconsideration and allowance, particularly in view of the following remarks.

Revisions to the Specification and Drawings

Applicant submits herewith an amended sheet of drawings bearing FIGS. 3 and 4, wherein FIG. 3 has been revised for the purpose of overcoming the examiner's objection to the drawings under 37 CFR 1.83(a).

In particular, as reflected on the accompanying replacement sheet of drawings, FIG. 3 has been revised by the addition of (i) a "mark" at one end or one extremity of the illustrated band 44, together with (ii) the addition of reference numeral 67 and an associated lead line referring to this "mark".

These revisions are consistent with applicant's as-filed Specification which states, at page 9, lines 23-26:

"Where an antenna 66 is used, it is located in one extremity of the chamber 46 and that extremity is marked to indicate the location of the extremity 68 of the band or body 44 which incorporates the antenna."

Accordingly, the above-stated addition of the "mark" at one end or extremity of the band 44, and the inclusion of reference numeral 67 to refer to that "mark", is believed to be consistent with the as-filed Specification and thus does not raise an issue of new matter.

In addition, applicant has by this Response also edited the Specification as page 9 for proper reference to reference numeral 67 which has been added to FIG. 3. Specifically, the above-quoted sentence from the original Specification at page 9, lines 23-26, has been edited to read (added language underlined):

“Where an antenna 66 is used, it is located in one extremity of the chamber 46 and that extremity is marked as indicated by reference numeral 67 in FIG. 3 to indicate the location of the extremity 68 of the band or body 44 which incorporates the antenna.”

This revision to the Specification is not believed to raise any issue of new matter.

With the above-discussed revisions to FIG. 3 and to the Specification, the objection to the drawings (under 37 CFR 1.83(a)) and the related Section 112 rejections directed to claims 36 and 43 are believed to be overcome.

With respect to the remaining Section 112 rejections as stated in the Office Action, applicant notes that claims 31, 39 and 42 have been canceled. Independent claim 41 has been edited to insert the word “said” before the word “strap” at line 3 thereof, thereby correcting a typographical error which resulted in the “awkward and confusing” language as noted by the examiner. This revision to claim 41 is believed to resolve the Section 112 rejection directed to claims 41 and 43-44.

Discussion of the Invention as Now Claimed

Independent claims 30, 38 and 41 as now presented recite applicant’s concept for a radio frequency identification device such as a wristband including a radio frequency identification (RFID) circuit incorporated into or carried by a “securement means” adapted for connection to a flexible “strap”. The “securement means” supports and retains the flexible “strap” in a closed loop configuration encircling an object or an individual to be identified. In a typical

configuration, the "securement means" and the "strap" cooperatively form a wristband to be worn, for example, by a patient or the like in a medical facility. The RFID circuit carried by the "securement means" is programmable to receive appropriate patient identification and other patient-related information.

In accordance with the invention, the "securement means" and the RFID circuit such as an RFID chip carried thereby are re-usable. That is, following use of the RFID circuit with a particular patient or the like, the entire device is normally removed from the patient, for example, when the patient leaves the medical facility. Such removal of the entire device is normally accomplished by simple cutting of the typically lightweight, inexpensive "strap". The "strap" is then discarded, while the "securement means" and the RFID circuit carried thereby are separated from the "strap" for appropriate sanitizing prior to re-use. Specifically, the sanitized "securement means" and the RFID circuit carried thereby can be re-programmed for use with a subsequent patient or the like, at which time the "securement means" is quickly and easily assembled with a replacement "strap" and mounted onto the patient's wrist or the like.

Independent claim 30 as now presented recites applicant's invention with sufficient scope to encompass the two embodiments depicted respectively in FIGS. 1-2 and 3-4, but with sufficient detail to distinguish more clearly from the cited references of record. More particularly, claim 30 now specifies that one end of the "strap" incorporates a "fastening opening", and further that the "securement means" includes a "fastening element" engageable therewith. In the embodiment of FIGS. 1-2, the "fastening opening" 17 is sized for removable connection with the "fastening element" comprising the upstanding "boss" 16 within the "securement means". See also dependent claim 34. In the

embodiment of FIGS. 3-4, a "fastening opening" is formed in both ends of the flexible "strap" for interference fit reception of "first and second opposite extremities" on the "securement means". See also dependent claim 35.

Related dependent claims 33 and 36 additionally recite "an antenna carried by said strap" for "operative" connection with the RFID circuit when the strap and securement means are assembled together. Claim 36 further recites that one end of the strap is "marked" to "indicate the location of said antenna".

Independent claim 38 incorporates the substantive limitations discussed above relative to claim 30, but in terms directed to the embodiment of FIGS. 1-2. As now presented, claim 38 recites the "fastening opening" in a first end of the "strap", in combination with the "fastening element" on the "securement means" for engagement therewith, and further in combination with a slide-fit passage in the "securement means" for receiving a second end of the "strap". Related dependent claim 40 recites the "antenna" carried by the strap and the "operative" connection to the RFID circuit when the strap and securement means are assembled together.

Independent claim 41 also incorporates the substantive limitations of claim 30, but in language directed to the embodiment of FIGS. 3-4, and further reciting the strap-carried "antenna" with associated "means for operatively connecting" the antenna with the RFID circuit when the components are assembled together. Related dependent claim 43 further recites that one end of the strap is "marked" to "indicate the location of said antenna".

The identification device or wristband as now recited in each of applicant's independent claims 30, 38 and 41 is respectfully submitted to distinguish clearly and patentably from the cited prior art references. These cited references do not

disclose or suggest the concept of a flexible strap having a "fastening opening" for removable connection with a "fastening element" on a "securement means" that also carries a "radio frequency identification circuit". This combination of structures, as recited in applicant's independent claims, permits and facilitates separation of the "securement means" with the associated RFID circuit from the "strap", following a first use cycle with a first patient or the like, and subsequent assembly of the same "securement means" and its accompanying on-board RFID circuit with a subsequent "strap" for a second or subsequent use cycle with a second patient or the like.

In addition, the references do not disclose or suggest applicant's concept as recited in dependent claim 35 or independent claim 41, wherein the "strap" has "fastening openings" in both of the opposite ends thereof for "interference fit" reception of the opposite ends of an RFID circuit-carrying "securement means", in further combination with "means for operatively" and concurrently connecting that RFID circuit with a strap-mounted "antenna". The cited references further do not disclose or suggest the concept recited in applicant's related dependent claims 36 and 43, namely, that one end of the "strap" is marked to assure proper coupling between the "radio frequency identification circuit" with the strap-mounted "antenna", as a natural consequence of assembling the "securement means" with the "strap".

Accordingly, claims 30, 32-38, 40-41, and 43-44 are respectfully resubmitted for reconsideration and allowance.

Discussion of the Cited References

In the Office Action, the examiner finally rejected applicant's claims for obviousness in view of multiple alternative asserted primary combinations of the cited references. Specifically, claims 30-32, 34, 35, 38-39, 41 and 42 were rejected in the alternative in view of (i) de Jong, U.S. Patent 4,612,719 in view of Hayes, U.S. Patent 4,178,374; (ii) Ross, U.S. Patent 4,598,275 in view of Peterson, U.S. Patent 5,479,797 and the de Jong '719 patent; or (iii) Peterson '797 in view of the Hayes '374 and de Jong '719 patents. Claims 30, 35, 37, 41 and 44 were also rejected in view of (iv) MacDonald, U.S. Patent 5,323,554 in view of the Ross '275 and de Jong '719 patents.

In addition, secondary rejections for obviousness were asserted against claims 33, 36, 40 and 43 in view of the above-listed primary combinations (i) through (iii), further in view of Tokunaga, U.S. 5,168,281 or Yamamori, U.S. Patent 5,986,566.

A. The de Jong '719 Patent

The de Jong '719 reference discloses a device for mounting an electronic detection element onto the neck or other part of an animal. De Jong's device includes a holder 1 carrying an electronic detection element 2, and connected to an elongated band 6 which is wrapped about the animal's neck. De Jong discloses several different embodiments, each of which is adapted to adjust the length of the band 6 for appropriate tightening thereof.

While applicant continues to respectfully disagree with the examiner regarding the examiner-alleged capability to remove and re-use de Jong's holder 1 with associated detection element 2, without physically destroying the holder and thereby precluding such re-use, applicant nevertheless notes that the de

Jong device does not have a “fastening opening” formed in the band 6, and further does not have a “fastening element” on the holder 1 that is “engageable with” and “removable from” the strap “fastening opening”, all as recited in applicant’s independent claims 30, 38 and 41.

In addition, de Jong’s holder 1 does not have “first and second opposite extremities each having a size and shape for interference fit reception respectively into said openings at said strap first and second opposite ends” (emphasis added), as now clearly recited in applicant’s claims 35 and 41. The de Jong reference further fails to disclose or suggest an “antenna” carried by the strap, or the concept of coupling that “antenna” to a “radio frequency identification circuit” concurrently with “interference fit” interconnection of the holder 1 with the strap 6. Once again, this concept is now clearly recited in applicant’s claims 35 and 41.

Moreover, the de Jong reference thereby also fails to disclose or suggest applicant’s concept of marking the strap end associated with the “antenna” to assure proper assembly of the holder 1 with the strap 6, as now clearly recited in applicant’s dependent claims 36 and 43.

Accordingly, for all of the above-discussed reasons, the de Jong reference cannot by itself support a rejection of applicant’s claims for obviousness.

B. The Hayes ‘374 Patent

The Hayes ‘374 reference does not provide any teaching or suggestion capable of overcoming the above-discussed deficiencies of the cited de Jong reference. Hayes shows an electronic ear tag for cattle or the like, wherein an electronic circuit element 60 is mounted within a housing having an integral

sharp barbed tip for one-way piercing passage through the ear of livestock such as cattle. Hayes also discloses an attachment piece 24 for pressed mounting onto the barbed tip, to assist in preventing retraction of the barbed tip from the animal's ear.

However, the Hayes reference clearly fails to disclose or suggest a "strap", as recited in all of applicant's claims. As a result, Hayes inherently and indisputably fails to disclose or suggest applicant's claimed "strap" having a "fastening opening" engageable with a "fastening element" carried by a "securement means" provided to support and retain such "strap" in a closed loop configuration.

In addition, similar to the de Jong reference, the Hayes reference does not disclose or suggest (i) any "interference fit" between a "securement means" and both opposite ends of an elongated flexible "strap", (ii) an "antenna" carried by such "strap" for automatic operative connection with a "radio frequency identification circuit" carried by the "securement means", upon "interference fit" connection between the "securement means" and the "strap", or (iii) a "marking" at one end of the "strap" for assuring proper assembly of the components.

Accordingly, considered alone or in combination with the de Jong reference, the Hayes reference also cannot support a rejection of applicant's claims for obviousness.

C. The Ross '275 Patent

The Ross '275 reference discloses a wristband device having an elongated strap defining a hollow interior within which is mounted a plurality of electronic components including a receiver 30, a battery/switch 32, and a transmitter 34. This strap is designed for removable mounting onto a wearer's

wrist by means of a conventional buckle 26 mounted on one end of the strap and adapted for engagement with one of a series of holes formed in the other strap end.

Clearly, the Ross reference does not disclose or suggest applicant's concept of mounting a "radio frequency identification circuit" on or within a "securement means" so that these components can be sanitized and re-used following disassembly from and disposal of the associated "strap".

As understood, the examiner contends that it would be obvious (under Section 103) to replace the buckle-style "securement means" of Ross with a "de Jong securement means" having an embedded RFID circuit, and that such combination would meet the limitations recited in applicant's claims. Applicant does not agree, because such combination would fail to provide a "strap" having a "fastening opening" therein for removable engagement with a "fastening element" on the "securement means" (as noted above with respect to the de Jong reference).

If and to the extent that the examiner re-formulates the Section 103 rejection to contend that it would be obvious to mount an RFID circuit onto the Ross buckle 26, applicant respectfully contends that such rejection would suffer from an improper hindsight analysis. Nothing in the Ross reference discloses or suggests any "securement means" structure capable of supporting an RFID circuit.

Accordingly, applicant respectfully submits that independent claims 30, 38 and 41 distinguish clearly and patentably from the Ross reference, or any combination thereof with the de Jong reference.

Moreover, with respect to claims 35 and 41 the Ross reference (by itself or in combination with other cited references) plainly fails to disclose or suggest (i) any “interference fit” between a “securement means” and the opposite ends of an elongated flexible “strap”, (ii) an “antenna” carried by such “strap” for automatic operative connection with a “radio frequency identification circuit” carried by the “securement means”, upon “interference fit” connection between the “securement means” and the “strap”, or (iii) a “marking” at one end of the “strap” for assuring proper assembly of the components (claims 36 and 43).

All of these deficiencies of the Ross reference are, of course, the same deficiencies found in the above-discussed de Jong and Hayes references. Accordingly, applicant respectfully submits that the Ross reference considered alone in any combination with the de Jong or Hayes references fails to support a rejection of applicant’s claims under Section 103.

D. The Peterson ‘797 Patent

The Peterson ‘797 patent shows a wristband device having a buckle-type structure for interconnecting opposite ends of a flexible strap to form a closed loop configuration. In this regard, Peterson discloses a flexible “strap” that does have a “fastening opening” formed in one end, for engagement with a “fastening element” on a “securement means” to support and retain the strap in a closed loop configuration. However, Peterson does not disclose or suggest “removable” connection of the strap to the securement means, in a manner to accommodate re-use or re-assembly of the same securement means with a different, replacement strap. To the contrary, a person skilled in the art would interpret and understand that the “securement means” in the Peterson reference cannot

be re-assembled with the same or a different “strap”, following disassembly of these components.

More particularly, as expressly shown and described in the Peterson reference, one end of the strap or band 20 has an opening 26 formed therein “configured to matingly engage” a mounting post 32 on the securement means 10. Col. 3, lines 58-61. Importantly, however, the upper end of the mounting post 32 is physically deformed “after” these components are assembled, as by “bending (as illustrated in FIG. 3)”. Col. 3, lines 61-65. FIG. 3 clearly shows the upper end of the post 32 split into multiple radially outwardly extending ears to effectively lock the strap end onto the post. While the elasticity characteristics of the strap 20 might permit subsequent albeit difficult disassembly of the strap from the post, Peterson expressly states that such disassembly is NOT easy – for the clear reason that Peterson does not want these components to come apart, accidentally or otherwise. Peterson NEVER discloses or suggests anything regarding subsequent re-assembly of the securement means 10 with the same or a different strap; indeed, a person skilled in the art would recognize and appreciate that such re-assembly in Peterson is effectively precluded.

When the Peterson disclosure is viewed in its entirety by a person skilled in the relevant art, it is clear that the Peterson reference does not disclose or suggest applicant’s claimed concept of “removable” engagement between the “securement means” and “strap” for “subsequent assembly and re-use [of the securement means and the RFID circuit carried thereby] with a replacement strap”, as clearly recited in applicant’s independent claims 30, 38 and 41.

Moreover, with respect to claims 35 and 41, and like the de Jong, Hayes, and Ross references, Peterson does not disclose or suggest (i) any “interference

fit” between a “securement means” and the opposite ends of an elongated flexible “strap”, (ii) an “antenna” carried by such “strap” for automatic operative connection with a “radio frequency identification circuit” carried by the “securement means”, upon “interference fit” connection between the “securement means” and the “strap”, or (iii) a “marking” at one end of the “strap” for assuring proper assembly of the components (claims 36 and 43).

E. The Tokunaga ‘281 and Yamamori ‘566 Patents

The Tokunaga ‘281 and Yamamori ‘566 patents have both been cited for their disclosures of an antenna structure embedded into a flexible wristband of a watch-type receiver device, wherein the embedded antenna is positioned for electrical connection with a main watch-shaped receiver unit.

Applicant respectfully notes, however, that neither one of the Tokunaga or Yamamori references discloses or suggests applicant’s claimed concept of an “interference fit” between a “securement means” and a flexible “strap”, wherein such “interference fit” is accompanied by operative coupling or connection between the “antenna” and a “radio frequency identification circuit” carried by the “securement means”. Instead, in both references, a traditional buckle-type “securement means” is provided at the opposite ends of the “strap” – at a location remote from the antenna or its connection with the receiver unit. Thus, in both references, affixation of the buckle is not performed by “interference fit” and is not accompanied by operative coupling of the antenna with the receiver unit. Instead, in both the Tokunaga and Yamamori references, the embedded antenna is coupled with the associated receiver unit independently from and at a distance spaced away from the buckle.

As such, the cited Tokunaga and Yamamori references clearly do not disclose or suggest the structure recited in applicant's independent claims 30, 41 and 45. Moreover, nothing in these references remotely contemplates applicant's additional concept of marking one end of the strap to assure proper assembly of the components.

Accordingly, the Tokunaga and Yamamori references, considered in combination with the above-discussed de Jong, Hayes, Ross and Peterson references, viewed singly or in any conceivable array, do not disclose or suggest the structures recited in applicant's claims as now presented.

F. The MacDonald '554 Patent

The MacDonald '554 reference discloses an identification wristband in the form of a hollow flexible strap adapted to receive and support a name card or the like, with a "connection plug 16" shaped for press-fit into the open opposite ends of the strap to form and retain the strap in a closed loop shape. Clasp elements 40 and 40' may also be provided for preventing separation of the strap ends from the plug 16.

Clearly, the MacDonald reference does not integrate a "radio frequency identification device" into the plug 16, nor does MacDonald incorporate an "antenna" into the flexible strap or otherwise mark one strap end to identify the location of the antenna for assuring proper component assembly.

Despite these deficiencies, the examiner contends that a person skilled in the art would find it obvious to modify MacDonald's wristband to include a radio frequency identification circuit in view of the Ross reference, and to incorporate that circuit into the plug 16 in view of the de Jong reference. Yet,

applicant's structure as now claimed would still not be the result of such combination.

Specifically, nothing in the Ross or de Jong references discloses or suggests the inclusion of an "antenna" on or within the flexible "strap", wherein such "antenna" is operatively connected with the "radio frequency identification circuit" concurrently or coincident with the act of connecting the "securement means" in interference fit relation with the opposite ends of the "strap". Moreover, nothing in these references remotely contemplates applicant's claimed concept of marking one end of the strap to identify the location of the "antenna" and thereby assure proper assembly of the components. Indeed, these concepts are not shown in any of the cited references, including the Tokunaga and Yamamori references each of which shows a strap-mounted antenna coupled to an associated receiver unit at a location remote from the opposite ends of a flexible strap, and remote from the related strap "securement means". Neither Tokunaga nor Yamamori couples the antenna to the receiver element concurrently with interconnecting the strap free ends, and neither reference discloses or suggests mounting the receive unit on or within a "securement means" where it is located for convenient re-use.

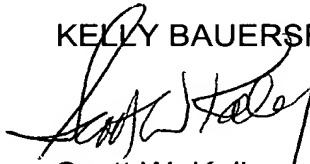
Accordingly, applicant respectfully submits that the MacDonald reference also fails to support a rejection of applicant's claims for obviousness.

Conclusion

In conclusion, in view of the foregoing newly submitted claims and the accompanying remarks, claims 30, 32-38, 40-41 and 43-44 as now presented are submitted for reconsideration and allowance. A Notice of Allowance is believed to be in order, and is therefore respectfully requested.

Respectfully submitted,

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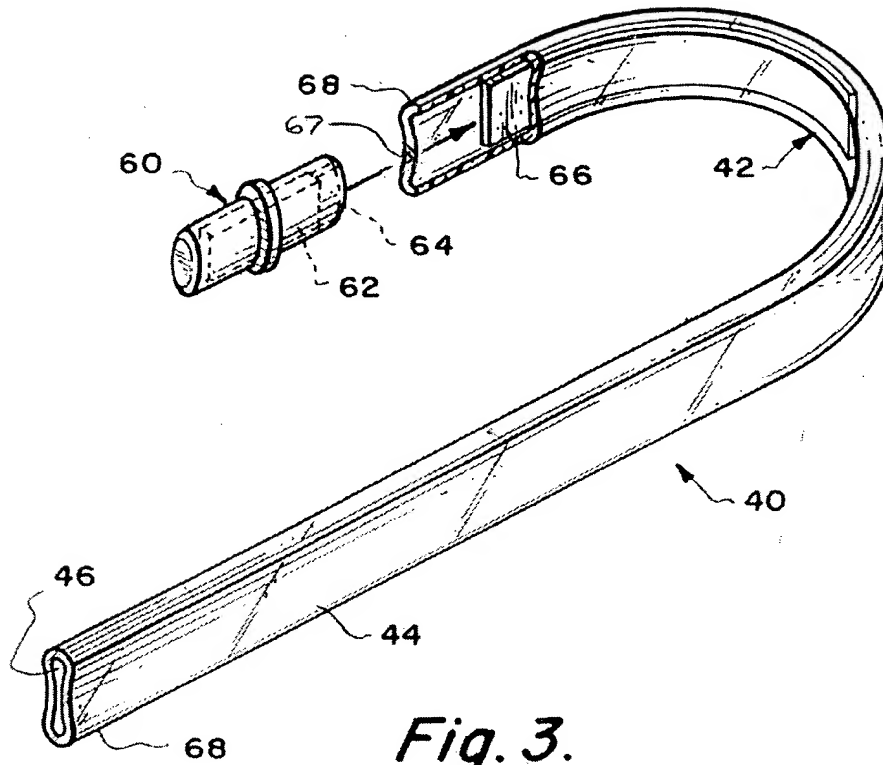


Fig. 3.

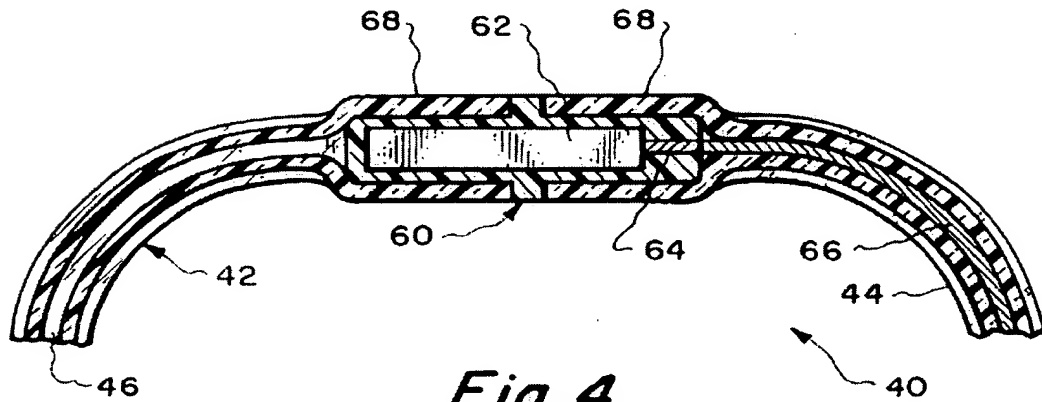


Fig. 4.

Not approved
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